REMARKS

This is in response to the Official Action mailed September 18, 2002 for the above-identified patent application. Claims 22-27 have been canceled. Claims 28-44 are now pending in the application. Claims 28 and 30 have been amended as is further discussed below. For reasons set forth in detail below, Applicants request that all objections and rejections be withdrawn and that the pending claims be allowed.

Objections to the Specification:

The Specification has been objected to for not providing the SEQ ID NO designation for the sequences disclosed on pages 8 and 28, as required by 37 CFR 1.821(d). Accordingly, the Specification has been amended to disclose that the sequences disclosed on pages 8 and 28 correspond to SEQ ID NO 3 and to a partial amino acid sequence of SEQ ID NO 5, respectively. It is respectfully submitted that the amendment is supported by the originally filed sequence listings for SEQ ID NO3 and SEQ ID NO 5 and therefore does not constitute new matter. In view of the foregoing, withdrawal of the objection to the Specification is respectfully requested.

Claim Rejections Under 35 U.S.C. § 112, first paragraph:

Claims 22, 25 and Claims 28-32, 35-40 which depend from Claims 22 or 25 have been rejected under 35 U.S.C. §112, first paragraph because Claims 22 and 25 were allegedly not enabled by the specification. Claims 22-27 have now been canceled. Claims 28 and 30 have been amended to remove all dependencies from now canceled Claims 22-27. In view of the

foregoing, withdrawal of the rejection under 35 U.S.C. §112, first paragraph of Claims 28-32 and 35-40 as allegedly not enabled by the specification is respectfully requested.

Claims 22, 25 and Claims 28-40, which depend from Claims 22 or 25, have been rejected under 35 U.S.C. §112, first paragraph, because Claims 22 and 25 allegedly contained subject matter not described in the specification in such a way as to reasonably convey that the inventors had possession of the claimed invention. Claims 22-27 have now been canceled. Claims 28 and 30 have been amended to remove all dependencies from now canceled Claims 22-27. In view of the foregoing, withdrawal of the rejection under 35 U.S.C. §112, first paragraph of Claims 28-40 as allegedly not described in the specification in such a way as to reasonably convey that the inventors had possession of the claimed invention is respectfully requested.

Claim Rejections under 35 U.S.C. §§ 102 and 103:

Claims 22, 23, 25, 26, 41 and 43 have been rejected under 35 U.S.C. §102(a) as anticipated by J. Bacteriol., Vol 178 (12), pp. 3501-07 (1996) (Hirrlinger et al.). The Examiner alleges that Hirrlinger et al. discloses the pure culture and cell extract of a *Rhodococcus* microorganism which uses a sole nitrogen source or hydrolyzes enantioselectively 2-aryl-propionamides (Official Action, p. 10, lines 16-18). Although Hirrlinger et al. does not teach that the *Rhodococcus* microorganism uses the propionamide of formula VI, the Examiner takes the position that the microorganism taught by Hirrlinger et al. inherently has the capability of hydrolyzing the propionamide of formula VI. The Examiner's conclusion are based on the ability of the *Rhodococcus* microorganism taught by Hirrlinger et al. to hydrolyze 2-arylpropionamides (Official Action, p. 11, lines 1-5).

However, it is respectfully submitted that Claims 41 and 43 are not anticipated by Hirrlinger et al. Hirrlinger et al. does not expressly disclose a microorganism that utilizes the propionamide of Formula VI, which lacks an aryl group, as required by Claims 41 and 43. With regard to the Examiner's position that Hirrlinger et al. inherently discloses such a microorganism, it is respectfully submitted that Hirrlinger et al. does not meet the test required for an inherent disclosure. In particular, if an element of the claim is not expressly disclosed, it must be "clear that the missing descriptive matter is necessarily present in the ... reference." *Acromed Corp. v. Sofamor Danek Group, Inc.*, 253 F.3d 1371, 1383 (Fed. Cir. 2001), *citing Continental Can Co. USA Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268-69, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991) (emphasis added). *See also In re Robertson,* 169 F.3d 743, 745 (Fed. Cir. 1999) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.") Similarly, "[t]he fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). *See also* Manual of Patent Examining Procedure § 2112. "In relying upon the theory of inherency, the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat App & Inter. 1990) emphasis in original.

In this case, the Examiner has not shown that the microorganism of Hirrlinger et al., which is capable of hydrolyzing 2-arylpropionamides, is necessarily a microorganism that uses the propionamide of Formula VI, as required by *Acromed* and *Ex parte Levy,* cited above. Applicants respectfully point out that the propionamide of formula VI does not have any aryl group and is therefore not a 2-arylpropionamide. Accordingly, the microorganism of Hirrlinger et al. is not necessarily a microorganism that uses the propionamide of Formula VI. At most, there is a possibility that the microorganism of Hirrlinger et al. may be capable of using the propionamide of Formula VI. However, as held in *In re Robertson* and *In re Rijckaert,* cited above, inherency may not be established by mere probabilities or possibilities. Furthermore, the microorganism of the present invention was specifically selected from the culture as a microorganism utilizing the propionamide of Formula VI as the sole nitrogen source, as disclosed in the specification on p. 2, lines 4-7. This further decreases the probability that the microorganism of Hirrlinger et al. may be capable of using the propionamide of Formula VI. Therefore, Claims 41 and 43 are not anticipated either expressly or inherently by Hirrlinger et al.

In view of the foregoing, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(a) of Claims 41 and 43 as anticipated by Hirrlinger et al. is respectfully requested.

Claims 22, 23, 25, 26, 41 and 43 have been rejected under 35 U.S.C. §102(b) as being anticipated by 1088 Biochimica et Biophysica Acta, 1991, Vol. 1088, pp. 225-33 (Hashimoto et al.). The Examiner alleges that Hashimoto et al. discloses the pure culture and cell extract of a *Rhodococcus* microorganism which hydrolyzes propionamide. Although Hashimoto et al. does not teach that the *Rhodococcus* microorganism uses the propionamide of formula VI, the Examiner takes the position that the microorganism taught by Hashimoto et al.

inherently has the capability of hydrolyzing the propionamide of formula VI. The Examiner's conclusion are based on the ability of the *Rhodococcus* microorganism taught by Hashimoto et al. to hydrolyze propionamide (Official Action, p. 12, lines 4-5).

However, it is respectfully submitted that Claims 41 and 43 are not anticipated by Hashimoto et al. Hashimoto et al. does not expressly disclose a microorganism that utilizes the propionamide of Formula VI, which lacks an aryl group, as required by Claims 41 and 43. With regard to the Examiner's position that Hashimoto et al. inherently discloses such a microorganism, it is respectfully submitted that Hashimoto et al. does not meet the test required for an inherent disclosure. As discussed above, inherency requires that the descriptive matter not expressly disclosed in the reference must be necessarily present in the reference. *Acromed*, 253 F.3d at 1383; *Ex parte Levy,* 17 USPQ2d at 1464. As further discussed above, the mere fact that a certain thing may result from a given set of circumstances is not sufficient for an element of a claim to be inherently disclosed. *See In re Robertson*, 169 F.3d at 745; *In re Rijckaert,* 9 F.3d at 1534.

In this case, the Examiner has not shown that the microorganism of Hashimoto et al., which hydrolyzes propionamide, is necessarily a microorganism that uses the propionamide of Formula VI, as required by *Acromed* and *Ex parte Levy*, cited above. Applicants respectfully point out that propionamide, which has the formula $CH_3CH_2CONH_2$, differs in several respects from the propionamide of formula VI. For example, the propionamide of formula VI may exist as a racemate, an L-isomer, and a D-isomer, whereas $CH_3CH_2CONH_2$ is not optically active; the propionamide of formula VI has a $-CF_3$ substituent at C_2, which $CH_3CH_2CONH_2$ lacks; the

propionamide of formula VI has an –OH substituent at C_2, which $CH_3CH_2CONH_2$ also lacks. Accordingly, the microorganism of Hashimoto et al. is not necessarily a microorganism that uses the propionamide of Formula VI. At most, there is a possibility that the microorganism of Hashimoto et al. may be capable of using the propionamide of Formula VI. However, as held in *In re Robertson* and *In re Rijckaert*, cited above, inherency may not be established by mere probabilities or possibilities. Furthermore, as discussed above, the microorganism of the present invention was specifically selected from the culture as a microorganism utilizing the propionamide of Formula VI as the sole nitrogen source. This further decreases the probability that the microorganism of Hashimoto et al. may be capable of using the propionamide of Formula VI. Therefore, Claims 41 and 43 are not anticipated either expressly or inherently by Hashimoto et al.

In view of the foregoing, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(b) of Claims 41 and 43 as anticipated by Hashimoto et al. is respectfully requested.

Claims 22-34 and 36-44 have been rejected under 35 U.S.C. §102(b) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over EP 0433 117 A1 (Dominique et al.). The Examiner alleges that Dominique et al. discloses the pure culture and cell extract of a *Rhodococcus* microorganism which hydrolyzes 2-arylpropionamides. Although Dominique et al. does not teach that the *Rhodococcus* microorganism uses the propionamide of formula VI, the Examiner takes the position that the microorganism taught by Dominique et al. inherently has the capability of hydrolyzing the propionamide of formula VI. The Examiner's conclusion are based on the ability of the *Rhodococcus* microorganism taught by Dominique et al. to hydrolyze 2-arylpropionamides (Official Action, p. 13, lines 15-17 and p. 14, lines 15-18).

In the alternative, the Examiner takes the position that it would have been obvious to "use the same microorganism/cell extract or enzyme" for the conversion of the propionamide of formula VI (Official Action, p. 14, lines 1-3).

However, it is respectfully submitted that Claims 28-34 and 36-44 are not anticipated by, and not obvious over, Dominique et al. Dominique et al. does not expressly disclose a microorganism that utilizes the propionamide of Formula VI, which lacks an aryl group, as required by Claims 28-34 and 36-44. With regard to the Examiner's position that Dominique et al. inherently discloses such a microorganism, it is respectfully submitted that Dominique et al. does not meet the test required for an inherent disclosure. As discussed above, inherency requires that the descriptive matter not expressly disclosed in the reference must be necessarily present in the reference. *Acromed*, 253 F.3d at 1383; *Ex parte Levy,* 17 USPQ2d at 1464. As further discussed above, the mere fact that a certain thing may result from a given set of circumstances is not sufficient for an element of a claim to be inherently disclosed. *See In re Robertson*, 169 F.3d at 745; *In re Rijckaert,* 9 F.3d at 1534.

In this case, the Examiner has not shown that the microorganism of Dominique et al., which is capable of hydrolyzing 2-arylpropionamides, is necessarily a microorganism that uses the propionamide of Formula VI, as required by *Acromed* and *Ex parte Levy*, cited above. Applicants respectfully point out that the propionamide of formula VI does not have any aryl group and is therefore not a 2-arylpropionamide. Accordingly, the microorganism of Dominique et al. is not necessarily a microorganism that uses the propionamide of Formula VI. At most, there is a possibility that the microorganism of Dominique et al. may be capable of using the

propionamide of Formula VI. However, as held in *In re Robertson* and *In re Rijckaert*, cited above, inherency may not be established by mere probabilities or possibilities. Furthermore, the microorganism of the present invention was specifically selected from the culture as a microorganism utilizing the propionamide of Formula VI as the sole nitrogen source. This further decreases the probability that the microorganism of Dominique et al. may be capable of using the propionamide of Formula VI. Therefore, Claims 41 and 43 are not anticipated either expressly or inherently by Dominique et al.

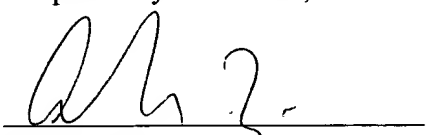
With regard to the Examiner's position that Claims 28-34 and 36-44 are obvious over Dominique et al., it is respectfully submitted that the Examiner has not shown, as discussed above, that the microorganism of Dominique et al. is "the same microorganism" as the microorganism that uses the propionamide of formula VI, as alleged in the Official Action on p. 15, lines 1-3. Furthermore, there is no motivation or suggestion in Dominique et al. to use the propionamide of formula VI, which lacks an aryl group and is therefore not a 2-arylpropionamide, as discussed above. Accordingly, it would not have been obvious to one of ordinary skill in the art based on the teachings of Dominique et al. to use any of the microorganisms required by Claims 28-34 and 36-44 to convert the propionamide of formula VI.

In view of the foregoing, reconsideration and withdrawal of the rejection of Claims 28-34 and 36-44 under 35 U.S.C. § 102(b) as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Dominique et al. is respectfully requested.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned **"Version with Markings to Show Changes Made."**

In view of the foregoing amendments and remarks, reconsideration and allowance of all the claims in this application are respectfully requested.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

The paragraph beginning on page 8, line 25 has been amended as follows:

e) The N-terminal amino acid sequence is: Met-Lys-Trp-Leu-Glu-Glu-Ser-Ile-Met-Ala-Lys-Arg-Gly-Val-Gly-Ala-Ser-Arg-Lys-Pro (SEQ ID NO: 3).

The paragraph beginning on page 28, lines 21-29 has been amended as follows:

The genetic code allowed the formulation, and synthesis using a DNA synthesizer, of a mixed DNA oligomer for the following Klebsiella oxytoca PRS1K17 amidohydrolase N-terminal peptide sequence:

[LON T-4]

5'	CAK	CAK	CTN	ACN	GAR	GAR	ATG	CA 3'
AS	His	His	Leu	Thr	Glu	Glu	Met	

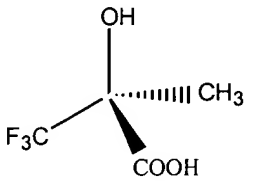
AS = amino acid sequence, which is a partial amino acid sequence of the LON T-4 peptide sequence (SEQ ID NO: 5)

In the Claims:

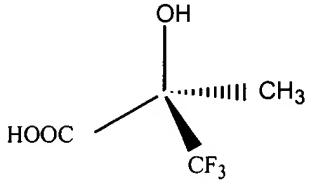
Claims 22-27 have been canceled.

Claims 28 and 30 have been amended as follows:

28. (Twice Amended) A process for the preparation of (S) - or (R) -3, 3, 3-trifluoro-2-hydroxy-2-methylpropionic acid of the formula:

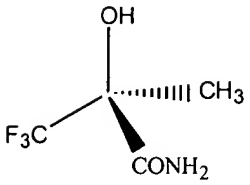


I

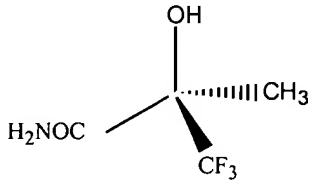


II

or of (R) - or (S) -3, 3, 3-trifluoro-2-hydroxy-2-methylpropionamide of the formula

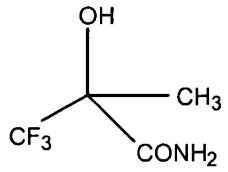


VII



VIII

comprising converting propionamide of the formula



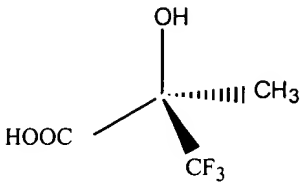
VI

into a compound of the formula I, II, VII or VIII using:

(a) the microorganism of claim [22, 23, 24,] 41 or 42; or

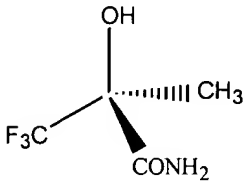
(b) the cell extract of claim [25, 26, 27,] 43 or 44.

30. (Twice Amended) A process for the preparation of (R) -3, 3, 3-trifluoro-2-hydroxy-2-methylpropionic acid of the formula



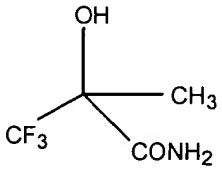
II

or of (S) -3, 3, 3-trifluoro-2-hydroxy-2-methyl-propionamide of the formula



VII

comprising converting propionamide of the formula



VI

into the compound of the formula II utilizing the microorganism of claim [22, 23, 24,] 41 or 42.